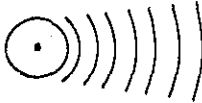


n-96-01
II-A-889

TESTING PROCEDURES FOR

MEASURING SOUND TRANSMISSION LOSS THROUGH MOVABLE AND FOLDING WALLS



DEVELOPED BY THE
FOLDING PARTITION SUBSECTION



NATIONAL SCHOOL SUPPLY & EQUIPMENT ASSOCIATION 27 EAST MONROE ST. • CHICAGO, ILL. 60603

Released June 1, 1966



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION
WASHINGTON, D.C. 20202

June 9, 1965

Mr. Dave McCurrach
Executive Manager
National School Supply & Equipment
Association
27 East Monroe Street
Chicago, Illinois 60603

Dear Mr. McCurrach:

Thank you for sending me an advance copy of Testing Procedures for Measuring Sound Transmission Loss Through Movable and Folding Walls as developed by the Folding Partition Subsection of your Association. It is encouraging to know that the manufacturers of these type walls have cooperated in the development of uniform testing procedures for measuring and objectively reporting their sound transmission loss.

I am glad to know that the test reports are to be based upon a standard test environment and that all test specimens will be installed under the supervision of an independent architectural consultant who must be totally impartial and have no connection with any company manufacturing operable walls. This should assure the comparability of all National School Supply and Equipment Association Certified Tests, thus, eliminating much of the confusion faced by many school officials when purchasing movable and folding walls.

I congratulate the industry, and in particular, your Association, on this significant project and sincerely believe it will prove to be mutually beneficial to school officials, architects, contractors, and to the building industry.

Sincerely yours,

John L. Cameron, Chief
School Housing Section

PREFACE

The purpose of this report is to establish a uniform set of practices for the installation of the test specimen, the conduct of the test, and the certification of the results when operable walls are tested for sound transmission loss in accordance with the American Society for Testing and Materials Designation: E90-61 T, Tentative Recommended Practice for LABORATORY MEASUREMENT OF AIRBORNE SOUND TRANSMISSION LOSS OF BUILDING FLOORS AND WALLS, or its latest revision. Only this ASTM method of determining sound loss is to be used since it is the universally accepted and understood test procedure.

All tests shall be conducted under the auspices of the National School Supply & Equipment Association and will be supervised by an independent architectural consultant. This consultant shall be totally impartial and shall have no connection with any company manufacturing operable walls. He shall also have no connection with NSSEA. On all points of disagreement or decision, he shall be the final arbitrator.

These recommended practices, which supplement the requirements of ASTM Designation: E90-61 T, were developed by the Folding Partition Subsection of the National School Supply & Equipment Association. Endorsing this project are the following companies:

Air Wall Division, Hupp Corp.	Kwik-Wall Corp.
Brunswick Corporation	Metal-Fold, Inc.
Brunswick of Canada, Ltd.	National Folding Wall Corp.
Equipment Mfg. Co.	Richards-Wilcox Division, Hupp Corp.
Gilde-A-Wall Co.	Richards-Wilcox Co. (London, Canada)
Robert Haws Company	Torjesen, Inc.
Hough Mfg. Corp.	Torjesen of Canada, Ltd.

Wayne Iron Works



THE NEED FOR STANDARDIZING TEST PROCEDURES

The test procedures detailed in this booklet grew out of a long time need, on the part of school officials, architects and others, for a definitive and workable method of comparing the sound transmission loss characteristics of movable walls.

The procedure for the test itself has been standardized by the American Society for Testing and Materials. But it is necessary in addition, to standardize the way the test specimen is installed, how its construction is certified, and other details of the conduct of the test. Only in this way can the ultimate user be protected from spurious claims and counter-claims based on partial test reports, non-applicable tests, or improperly conducted tests.

WHAT THE TEST RESULTS INDICATE

The test results stated in any NSSEA certificate apply only to a movable wall tested in accordance with the procedures outlined in the following sections and under stated laboratory conditions.

Certification of test results will not be construed as certifying that a movable wall of the same construction will give, under other than laboratory conditions, identical results. For in a field installation, the movable wall is not the only path for noise to pass from one room to the next. Other paths may be ceiling plenums, hollow floors, ventilation ducts, windows and doors, or hollow walls.

THE ROLE OF THE NATIONAL SCHOOL SUPPLY AND EQUIPMENT ASSOCIATION

The National School Supply & Equipment Association shall supervise the conduct of all tests and shall establish the testing procedures. NSSEA shall approve the testing laboratory. Any manufacturer, whether or not a member of the National School Supply & Equipment Association, may request that a test be conducted under NSSEA auspices.

NSSEA CERTIFICATION

The National School Supply & Equipment Association certification means that the manufacturer whose movable wall was tested in accordance with these procedures is authorized to use the following wording in his advertising or promotion:

"The manufacturer of this movable wall certifies that an NSSEA sponsored test of a 14 x 9 foot wall of this construction resulted in an NSSEA sound transmission rating of _____."

TESTING PROCEDURE

This test is designed to determine the performance of a movable wall as a sound barrier under the closest possible conditions comparable to a field installation.

The test procedures are as follows:

- A. **The manufacturer** whose wall is to be tested, shall file complete specifications of the construction and the installation of the wall with NSSEA and shall state its type and model number.

- B. **The Test Specimen:**
 1. The movable wall submitted for test shall be 14' wide and 9' high (plus or minus 4") which dimensions shall include the head section, rough bucks and jambs, seals and such other components as are always used in a field installation.

 2. The 9' high dimension shall be the distance from the top of the head section and supports to the mean level of a floor meeting commercial standards: i.e., 1/4" deviation in 10' non-accumulative. If a floor track is used the 9' will include distance between the top of the track and the mean level of the laboratory floor. In this case the track may be installed level.

 3. Caulking may be used between the head section and the top of the test section opening, between the jambs and the sides of the test section, and between the floor track and the floor if the floor track is used. It will not be used, however, in, at, or between, any movable element of the wall or panel.

4. All seals, top, bottom, joint, and jamb will be installed where used in accordance with the manufacturer's specification pertaining to the type and/or model number of movable wall being tested.
5. All operating components called for in the manufacturer's specification for the type and/or model number of the movable wall being tested will be installed at time of test.
6. Movable wall specimens will be installed in accordance with manufacturer's instructions and will be operated at least five consecutive times prior to test without further adjustment.
7. Fabric, or other types of accordion partitions (as distinguished from folding panel types) will be extended their full design length and will be installed in accordance with their manufacturer's installation instructions.
8. At the completion of the test, the Test Specimen will be inspected to determine if its construction is in accordance with the specifications supplied to NSSEA. The Test Specimen may be damaged or destroyed to the extent necessary to perform such an inspection.
9. The following information shall become part of the test report made by the NSSEA representative:
 - a. Type of seals—material, sweep, pressure, or other general description such as method of actuation.
 - b. Panel Thickness
 - c. Panel width and length

- d. Depth of head section
- e. Panel weight or, if fabric type, weight per sq. ft.
- f. Depth of stack including jamb thickness
- g. Measured force required to operate a manual partition
- h. Measured force to operate crank jamb, etc., if used
- i. The manufacturer's type and model number applying to this wall as supplied by the manufacturer
- j. Photographs of installed barrier

The information listed in subparagraphs (a) through (i) of Paragraph B9 of this procedure will be stated on the certificate.

C. The Test Facility:

1. The testing facility shall be in accordance with the provisions of the tentative Recommended Practice for Laboratory Measurement of Airborne Sound Transmission Loss of Building Floors and Walls issued 1961. (ASTM E90-61T)

Prior to the initiation of tests the facility shall be inspected and accredited by NSSEA as being in accord with ASTM E90-61T and suitable for the purpose intended.

D. Test Results—Acoustical:

1. This test shall be made in accordance with Section 8 (a) of ASTM E90-61T.
2. The data and the subsequent classification determined by the application of the provision of Appendix 1 of ASTM E90-61T shall be reported to NSSEA and the manufacturer of the test specimen by the testing agency. Classification shall be in accordance with the following schedule:

**Sound Transmission
Class**

NSSEA Rating

13-22 inclusive
23-27
28-32
33-37
38-42
43-47
48-52
Etc.

A
B
C
D
E
F
G

Anything beyond
this point, the
scale will increase
by increments of 5
decibels

3. Upon receipt of the test data and the rating, NSSEA will issue a certificate to the manufacturer stating the rating and that it was obtained under laboratory conditions on a movable sound barrier 14' x 9' represented by the manufacturer to be constructed and installed in accordance with the manufacturer's specifications for type _____ and/or model _____ as filed with NSSEA.



CERTIFICATE No. _____

DATE _____

NATIONAL SCHOOL SUPPLY & EQUIPMENT ASSOCIATION



Certification of Test Results

This Is to Certify That
an
NSSEA Class _____ Rating

has been obtained under laboratory conditions on a movable sound barrier
14' x 9' represented by the manufacturer _____
to have been constructed and installed in accordance with the manufacturer's
specifications for type _____ and/or model _____
as filed with the National School Supply & Equipment Association.

NSSEA Supervisor
of Test Results

CERTIFICATE No. _____

The NSSEA representative certifies that the following information was obtained during the test of the movable sound barrier shown on the front of this certificate:

(a) Type of seals — material, sweep, pressure, or other general description such as method of actuation _____

(b) Panel thickness _____

(c) Panel width and length _____

(d) Depth of head section _____

(e) Panel weight or, if fabric type, weight per sq. ft. _____

(f) Depth of stack including jamb thickness _____

(g) Measured force required to operate a manual partition _____

(h) Measured force to operate crank jamb, etc., if used _____

Special Comments _____

*Another service
in the interest
of better schools
from the . . .*



NATIONAL SCHOOL SUPPLY & EQUIPMENT ASSOCIATION 77 EAST MONROE ST • CHICAGO, ILL. 60603

PRINTED IN U.S.A.